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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,884	02/02/2004	Ronald E. Loving	1062	1064
7590 Ronald E. Loving 8655 Wise Ave Reno, NV 89506		05/09/2007	EXAMINER COCKS, JOSIAH C	
			ART UNIT 3749	PAPER NUMBER
			MAIL DATE 05/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

ED

Office Action Summary

Application No.

10/770,884

Applicant(s)

LOVING, RONALD E.

Examiner

Josiah Cocks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 8, 10, 11 and 13-15 is/are pending in the application.
- 4a) Of the above claim(s) 13-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8, 10, and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Receipt of applicant's amendment filed February 7, 2007 is acknowledged. By this amendment, applicant has amended claims 1 and 10 and withdrawn claims 13-15 from consideration as being drawn to a distinct invention. Applicant has concurred with the examiner's constructive election of the originally presented invention of claims 1-12 as applicant received an action on the merits for this invention (see response, p. 8). Accordingly, claims 13-15 are considered to be withdrawn without traverse.

In regard to claims 5, 7, 9, and 12, applicant appears to indicate that the subject matter of claims 7, 9, and 12 has been incorporated into either independent claims 1 or 10 and that these claims 7, 9, and 12, are no longer intended to be pending for examination (see response, p. 11). Further, applicant has concurred with the examiner's notification that the subject matter of claim 5 lacked proper antecedent basis in the specification (see response, p. 8). However, applicant has used the status modifier "withdrawn" for each of these claims. These claims were not subject to a separate restriction requirement. Accordingly, the status modifier "withdrawn" is not appropriate. As best can be determined, it appears that applicant intends claims 5, 7, 9, and 12 to be "cancelled" and have been regarded as such for the prosecution on the merits of this application.

Therefore, claims 1-4, 6, 8, 10, 11, and 13-15 are considered pending for examination with claims 13-15 withdrawn as being directed to a non-elected invention. Any response to this Office action must include a separate, accurate listing of the claims pending for examination.

Claim Objections

2. Claims 1 and 10 are objected to because of the following informalities:

In claim 1, the seventh line from the bottom of the claim, and claim 10, the sixth line from the bottom, it appears the recitation "via vanes" should read "via said vanes" in order to clearly indicate that the vanes referred to are those that were previously described as forming part of the circular disc of the flow conditioner.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-4, 6, 8, 10, and 11** are rejected under 35 U.S.C. 102(b) as being anticipated by **U.S. Patent No. 4,183,896 to Gordon** ("Gordon") (previously cited).

Gordon discloses in the specification and Figs. 1-15 an invention in the same field of endeavor as applicant's invention and as described in applicant's claims 1-4, 6, 8, 10, and 11.

In particular, in regard to at least claims 1 and 10, Gordon shows a heat reactor system comprising an elongated tubular housing (112, 112, and 116, see Figs. 9 and 10) having an inlet duct (146) for receiving injected fuel and air and an outlet duct (exit of 116) for expelling heated gases (see Fig. 10). The elongated tubular housing is partitioned internally by at least one flow conditioner (148, 150, and/or 152) perpendicularly positioned along the axis of the housing, thus

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forming at least a first combustion chamber (114) and at least one reactor compartment (compartment containing the flow conditioners). The reactor compartment includes only the three circular discs (148, 150, 152) and thus has no moving parts as recited in claim 1.

Further, in regard to claims 1 and 10, the circular discs (148, 150, 152) are considered to have multiple slits/slots (156) therethrough (see at least col. 7, lines 30-31) wherein the slits (156) are also designated as bent wall portions/vanes as recited (see at least col. 7, lines 37-38). Further, the discs include multiple cross bars in the same manner as recited by applicant (see at least Figs. 14 and 15). In this regard, at least the top surfaces portions (shown as 166 in Figs. 14 and 15) are considered to be cross bars that function to deflect, condition, and block gases escaping from a central region (i.e. any region central to the circular frame of the discs, see Fig. 14 and 16)

Additionally, Gordon provides that the fuel and air passing into the combustion chamber are ignited by igniter (190) in order to release heat (see col. 8, lines 34-54). Further, the baffle plates/discs (148, 150, 152) are arranged such that the openings in the plates are non-aligned in order to produce a diverted and turbulent flow therethrough that serves to increase the retention/dwell time of the gases in the combustion section (114) (see col. 7, lines 42-45 and col. 9, lines 13-18). This turbulent and diverted flow for increased retention time is considered to suggest the recited spiraling motion for increased dwell time as recited in applicant's claims. Lastly, the result is non-polluted (i.e. pollution free or virtually pollution free) exhaust fumes (see at least col. 1, lines 12-15).

In regard to at least claims 2-4, the embodiment of Figs. 1-8 of Gordon describes that the tubular housing (15) is made of steel, a heat resistant material, and the interior flow

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conditioner/discs (13) are made of ceramic, also a heat resistant material. These elements are considered to correspond to the housing (116) and discs (148, 150, 152) shown in the embodiment of Fig. 10 and suggest that these elements of Fig. 10 would also be made of steel and ceramic, respectively.

In regard to at least claim 6, note the multiple reactor compartments formed by multiple flow conditioners (148, 150, 152).

In regard to claim 8, Fig. 10 shows that the plates (148, 150, and 152) are arranged in grooves within the housing 116). Further, as previously noted, the plates (148, 150, and 152) are considered to correspond to discs (13) of a prior embodiment of Gordon and expressly recited to be in grooves (29) that serve to orient the discs (see at least col. 4, lines 16-20). The reception of the plates (148, 150, and 152) in the grooves is considered to suggest the multiple locating tabs recited.

In regard to claim 11, at least gas is disclosed as the fuel passed to combustion chamber (114) (see at least col. 8, lines 55-59).

Response to Arguments

5. Applicant's arguments filed February 7, 2007 have been carefully considered but are not persuasive.

Applicant argues that the device of Gordon cannot be used for production of pollution-free intense heat that can be used for energy purposes. The examiner respectfully disagrees.

In response, the examiner notes that as shown at least in Figures 9 and 10 of Gordon, the reaction chamber formed by zones (112, 114, and 116) expressly functions to ignite and combust

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an exhaust mixture at high temperatures in order to reduce resulting pollutants (see at least col. 5, lines 35-66). Such temperatures being on the order of 2000 degrees Fahrenheit (see col. 8, lines 48-49). The examiner also notes that this is the identical purpose of applicant's invention.

Applicant has further contended that the presence of an additional cooling tube around the heat reactor system somehow renders applicant's invention free of Gordon. The examiner again respectfully disagrees.

In response, the examiner initially notes that applicant uses the term "comprising" to bridge the preamble and the body of the claim. It is well settled that the transitional term "comprising" is "inclusive or open-ended and does not exclude additional, unrecited elements of method steps. See MPEP 211.03. Accordingly, the additional presence of a downstream cooling device in Gordon does not render applicant's device free of Gordon, which, as noted above, shows a heat reactor system having the recited structure that produces intense heat.

Additionally, the examiner further notes that applicant's claim recitations concerning the production of the intense heat and use in an environmentally friendly manner appear at the end of the claims (claim 1 and 10) in a whereby clause. It has been held that claim scope is not limited by claim language that does not limit a claim to a particular structure. See MPEP 2111.04. Such language that may raise a question as to the limiting effect of the language include "whereby clauses". Id. In this case, applicant's whereby clause does not describe any structure that is distinct from that shown in Gordon. Further, the examiner considers that despite some cooling that would occur by virtue of the downstream cooling described by Gordon, any resulting heat produced would be useable "for energy purposes in an environmentally friendly manner" as recited in applicant's claims.

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Applicant also argues that the element (116) in Gordon does not constitute a tubular housing. The examiner respectfully disagrees.

In response, the examiner notes that regardless of the presence of the outer housing (102), the interior tubular housing formed by tubular elements (112, 114, and 116) are considered to form the recited heat reactor. The examiner again notes that as applicant's claims recite "comprising" as the transitional term, they do not exclude additional unrecited elements such as an outer housing.

Applicant also argues that the four check valves (170) of Gordon should be regarded as moving parts and thus applicant's recitation in claim 1 of "having no moving parts" patentably distinguishes applicant's invention. The examiner respectfully disagrees.

In response, the examiner notes that the check valves (17) in Gordon allow the inflow of air into the area outside of the heat reactor formed by elements (112, 114, and 116). This air then provides a cooling function. However, these check valves are not considered to be with the reactor compartment. As noted above, the only elements in the reactor compartment of Gordon are the flow conditioners in the form of circular discs (148, 150, and 152), which do not have any moving parts. Further, the examiner notes that this assertion by applicant as to what constitutes moving parts conflicts with applicant's own disclosure. Review of applicant's Fig. 1 reveals that applicant's invention includes a blower (12), which is reasonably construed to include moving parts to generate air. In as much as this blower is not a moving part of the reactor compartments, then the air valves (170) are reasonably also not considered to be moving parts of the reactor compartment of Gordon.

Applicant further argues that applicant's recited flow conditioner is distinct from the flow circular disc baffle plates of Gordon. The examiner respectfully disagrees.

In response, the examiner notes that while Gordon does not disclose a central opening (158) in each of the discs (148, 150, 152), applicant's claims do not require, nor where they considered to require during examination, that no central opening exists. Instead, as noted above, applicant's claims are met by the disclosure of the inwardly projecting upper surfaces of the members (166, in Figs. 14 and 15). The examiner further notes that the purpose of the circular discs (148, 150, 152) is identical to the flow conditioner of applicant's invention in increasing the retention/dwell time of the gases in the combustion section (114) (see col. 7, lines 42-45 and col. 9, lines 13-18).

Applicant also argues that the locating tabs of applicant's invention are distinct from the locating grooves of Gordon. The examiner respectfully disagrees.

In response, the examiner notes that the express purpose of the grooves (29) in Gordon are to receive and orient the edges of the discs (13) with respect to the tubular housing. Similar grooves and mating arrangements are shown for the discs (148, 150, and 152) of Figs. 9 and 10. The examiner considers a person of ordinary skill in the art would reasonably consider that the edge of the discs being received in the grooves reasonably suggest mating along multiple points along the circumference of each disc, and thus are properly regarded as multiple locating tabs as recited.

Accordingly, while applicant's arguments and amendments have been carefully considered, for the reasons discussed above, applicant's invention described in claims 1-3, 6, 8, 10, and 11 is not considered to be patentably distinguished from the prior art.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Josiah Cocks whose telephone number is (571) 272-4874. The examiner can normally be reached on M-F 8:00-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Rinehart, can be reached on (571) 272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcc
May 8, 2007



JOSIAH COCKS
PRIMARY EXAMINER
ART UNIT 3749